KODAK VERSAMAT 641 Developer Replenisher, Part A

MATERIAL SAFETY DATA SHEET

200000467/F/USA
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1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: KODAK VERSAMAT 641 Developer Replenisher, Part A

Catalog Number(s): 188 1275 - To Make 20 gallon (U.S.)

Manufacturer/Supplier: EASTMAN KODAK COMPANY, Rochester, New York 14650

For Emergency Health, Safety & Environmental Information, call (585) 722-5151

For other information or to request an MSDS, call (800) 242-2424.

Synonym(s): KAN 354668; PCD 2431; C-0161.000

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Weight %	Component	(CAS Registry No.)
55-60	Sodium sulfite	(007757-83-7)
25-30	Sodium erythorbate	(006381-77-7)
5-10	1-phenyl-3-pyrazolidinone	(000092-43-3)
5-10	Potassium bromide	(007758-02-3)
1-5	Ethylenediaminetetraacetic acid tetrasodium salt	(000064-02-8)

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3. HAZARDS IDENTIFICATION

CONTAINS: Sodium sulfite (007757-83-7), 1-phenyl-3-pyrazolidinone (000092-43-3)
DANGER!
CAUSES EYE BURNS
HARMFUL IF INHALED OR SWALLOWED
CAUSES SKIN IRRITATION
DUST IRRITATING TO RESPIRATORY TRACT
MAY LIBERATE SULFUR DIOXIDE
MAY CAUSE ALLERGIC SKIN REACTION
BASED ON REPEATED-DOSE INGESTION STUDIES IN ANIMALS, A COMPONENT OF THIS

PRODUCT MAY CAUSE BLOOD, TESTICULAR, AND ADVERSE REPRODUCTIVE EFFECTS
POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES

HMIS Hazard Ratings:
Health - .* 2, Flammability - 1, Reactivity - 0, Personal Protection - F

NFPA Hazard Ratings:
Health - 2, Flammability - 1, Reactivity (Stability) - 0

NOTE: HMIS and NFPA hazard indexes involve data review and interpretation that may vary among companies. They are intended only for rapid, general identification of the magnitude of the potential hazards. The personal protection index is only intended for general guidance on personal protection equipment (PPE) that is suitable for the potential hazards of the material. PPE (e.g., respirators) may not be needed if engineering controls (e.g., local ventilation) are adequate. An asterisk (*), in the HMIS health field, designates potential chronic or target organ hazards. To adequately address safe handling, ALL information in this MSDS must be considered.

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4. FIRST-AID MEASURES

Inhalation: Move to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

Eyes: Immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

Skin: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. If skin irritation or an allergic skin reaction develops, get medical attention. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Ingestion: Do NOT induce vomiting. Give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

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5. FIRE FIGHTING MEASURES

Extinguishing Media: Water spray, carbon dioxide (CO_2), dry chemical

Special Fire-Fighting Procedures: Wear self-contained breathing apparatus and protective clothing. Fire or excessive heat may produce hazardous decomposition products.

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, oxides of sulfur, oxides of nitrogen, hydrogen bromide

Unusual Fire and Explosion Hazards: Powdered material may form explosive dust-air mixtures.

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6. ACCIDENTAL RELEASE MEASURES

Flush to sewer with large amounts of water. Collect up and put in a suitable container. Avoid generation of dust. Clean surface thoroughly to remove residual contamination.

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7. HANDLING AND STORAGE

Personal Precautionary Measures: Avoid breathing dust. Do not get in eyes and avoid contact with skin and clothing. Use with adequate ventilation. Wash thoroughly after handling.

Prevention of Fire and Explosion: Powdered material may form explosive dust-air mixtures. Minimize dust generation and accumulation. Use with adequate ventilation. Keep away from sources of ignition. Refer to NFPA Pamphlet No. 654, "Prevention of Fire and Dust Explosions in the Chemical, Dye, Pharmaceutical, and Plastics Industries." Keep from contact with oxidizing materials.

Storage: Keep container closed. Keep away from incompatible substances (see Incompatibility section).

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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:

Eastman Kodak Company industrial hygiene guideline:

1-phenyl-3-pyrazolidinone: 0.2 mg/m3 TWA

Ventilation: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. Use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits, an approved respirator must be worn. Respirator type: Dust. A respirator should be worn if hazardous decomposition products are likely to be or have been released. Respirator type: Acid gas. See Stability and Reactivity Section. If respirators are used, a program should be instituted to assure compliance with OSHA Standard 29 CFR

1910.134.

Eye Protection: Wear safety glasses with side shields (or goggles).

Skin Protection: Wear impervious gloves and protective clothing appropriate for the risk of exposure.

Recommended Decontamination Facilities: Eye bath, washing facilities, safety shower

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9. PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Solid
Color: Brown
Odor: Odorless
Specific Gravity (water = 1): Not available
Vapor Pressure at 20°C (68°F): Negligible
Vapor Density (Air = 1): Not applicable
Volatile Fraction by Weight: Negligible
Melting Point: Not available
Solubility in Water: Complete
pH at 27°C (80°F): Not applicable
Flash Point: Not applicable, combustible solid

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10. STABILITY AND REACTIVITY

Stability: Stable

Incompatibility: Strong oxidizing agents, strong acids

Hazardous Polymerization: Will not occur.

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11. TOXICOLOGICAL INFORMATION

Effects of Exposure:

General: Based on repeated-dose ingestion studies in animals, 1-phenyl-3-pyrazolidinone, a minor component of this product may cause blood, testicular, and adverse reproductive effects. In contact with strong acids or if heated, sulfites may liberate sulfur dioxide gas. Sulfur dioxide gas is irritating to the respiratory tract.

Contains: Bromide salts. Ingestion of bromide salts can cause nausea, vomiting, headache, irritability, delirium, memory loss, decreased appetite, joint pain, hallucinations, stupor, coma, and acnelike rash on face, legs,

and trunk.

Inhalation: Harmful if inhaled. Airborne dust irritating. Some asthmatics or hypersensitive individuals may experience difficult breathing. In contact with strong acids or if heated, sulfites may liberate sulfur dioxide gas. Sulfur dioxide gas is irritating to the respiratory tract.

Eyes: Causes burns.

Skin: Causes irritation. May cause allergic skin reaction based on human experience.

Ingestion: Harmful if swallowed. May cause burns of the gastrointestinal tract if swallowed. Some asthmatics or sulfite-sensitive individuals may experience wheezing, chest tightness, stomach upset, hives, faintness, weakness and diarrhea.

Data for 1-phenyl-3-pyrazolidinone:

Acute Toxicity Data:

Oral LD-50 (male rat): 476 mg/kg
Oral LD-50 (female rat): 336 mg/kg
Dermal LD-50: > 1000 mg/kg, estimated
Skin irritation: slight irritation
Repeated skin application: slight irritation
Skin sensitization: slight
Eye irritation (unwashed eyes): slight irritation

Definitions for the following section(s): LOEL = lowest-observed-effect level, LOAEL = lowest-observed-adverse-effect, NOAEL = no observed-adverse-effect level, NOEL = no-observed-effect level.

Subchronic Toxicity Data:

Oral study (90 days, rat):

LOEL = 0.32 % in diet (target organ effects: testes)
LOEL = 0.08 % in diet (reduced feed intake)
LOEL = 0.02 % in diet (target organ effects: red blood cell)
NOEL = not established

Dermal absorption rate (dog, in vivo): 9 microgram(s)/cm2/hour

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12. ECOLOGICAL INFORMATION

The following properties are ESTIMATED from the components of the preparations.

Potential Toxicity

Fish LC50 mg/l:	>100
Daphnid EC50 mg/l:	10-100
Algal IC50 mg/l:	10-100

Organics Readily Degradable (>70%):	Yes (14 days)
Potential Bioaccumulation:	Log Pow <1
COD (approximate g/l):	34
BOD5 (approximate g/l):	13
Potential Toxicity Waste treatment microorganisms EC50 (mg/l):	>100

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13. DISPOSAL CONSIDERATIONS

Discharge, treatment, or disposal may be subject to national, state, or local laws. Flush to sewer with large amounts of water. Since emptied containers retain product residue, follow label warnings even after container is emptied.

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14. TRANSPORT INFORMATION

- For transportation information regarding this product call the Kodak Worldwide Transportation Hazmat Hot Line: (585) 722-2400 between 8 a.m. and 5 p.m. (Eastern Standard Time), Monday through Friday.

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15. REGULATORY INFORMATION

- Material(s) known to the State of California to cause cancer: None
- Material(s) known to the State of California to cause adverse reproductive effects: None

- Carcinogenicity Classification (components present at 0.1% or more):
  - International Agency for Research on Cancer (IARC): None
  - American Conference of Governmental Industrial Hygienists (ACGIH): None
  - National Toxicology Program (NTP): None
  - Occupational Safety and Health Administration (OSHA): None

- Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and

40 CFR Part 372: None

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16. OTHER INFORMATION

US/Canadian Label Statements:

CONTAINS: Sodium sulfite (007757-83-7), 1-phenyl-3-pyrazolidinone (000092-43-3)
DANGER!
CAUSES EYE BURNS
HARMFUL IF INHALED OR SWALLOWED
CAUSES SKIN IRRITATION
DUST IRRITATING TO RESPIRATORY TRACT
MAY LIBERATE SULFUR DIOXIDE
MAY CAUSE ALLERGIC SKIN REACTION
BASED ON REPEATED-DOSE INGESTION STUDIES IN ANIMALS, A COMPONENT OF THIS PRODUCT MAY CAUSE BLOOD, TESTICULAR, AND ADVERSE REPRODUCTIVE EFFECTS
POWDERED MATERIAL MAY FORM EXPLOSIVE DUST-AIR MIXTURES
Minimize dust generation and accumulation.
Do not get in eyes and avoid contact with skin and clothing.
Avoid breathing dust.
Use with adequate ventilation.
Wash thoroughly after handling.

FIRST AID: If swallowed, do NOT induce vomiting. Give victim a glass of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. If inhaled, move to fresh air. Treat symptomatically. In case of contact, immediately flush eyes and skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.

Keep out of reach of children.

Do not handle or use until safety precautions in Material Safety Data Sheet (MSDS) have been read and understood.

Additional hazard precautions for containers greater than 1 gallon of liquid or 5 pounds of solid:

Since emptied containers retain product residue, follow label warnings even after container is emptied.

IN CASE OF FIRE: Use water spray, carbon dioxide (CO2), dry chemical

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The information contained herein is furnished without warranty of any kind. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

R-2, S-3, F-1, C-0 REPO